CLAIMS

1. A sedation and analgesia system, comprising:

two or more patient health monitor devices adapted so as to be coupled to a patient and so as to each generate a signal reflecting one or more physiological conditions of the patient wherein the operating principle of each of said monitors is different;

a user interface;

a drug delivery controller supplying one or more drugs to the patient;

a memory device storing a safety data set reflecting safe and undesirable parameters of at least one of said monitored patient physiological conditions;

one or more effector for ensuring patient safety and clinician awareness; and

an electronic controller interconnected with the patient health monitors, the user interface, the drug delivery controller, the memory device storing the safety data set, and the effector, wherein said electronic controller receives said signals and in response to said signals controls the effector in accordance with the safety data set.

2. The sedation and analgesia system of claim 1, wherein the patient health monitor devices are of different types.

3. The sedation and analgesia system of claim 2, wherein the patient health monitor devices each generate a signal reflecting a similar physiological condition of the patient.

4. The sedation and analgesia system of claim 3, wherein at least one of said patent health monitor devices provides high sensitivity and at least one other patient health monitor device provides high specificity.

5. The sedation and analgesia system of claim 1, wherein the monitors gather data regarding a physiological condition of the patient independently of one another.

6. The sedation and analgesia system of claim 1, wherein the patient health monitoring devices comprise two or more major monitors and at least one minor

monitor, said major monitors being integrated into the decision making processes of the sedation and analgesia system and said minor monitors presenting data to the clinician.

7. The sedation and analgesia system of claim 1, wherein at least some of said patient health monitor devices are ascribed point values as to at least one of their importance and accuracy in monitoring a patient parameter.

8. The sedation and analgesia system of claim 1, wherein said effector includes at least one of decreasing a drug target concentration, increasing a drug target concentration, delivering positive airway pressure, triggering said monitors to cull more information, alarming, changing drugs, delivering oxygen, and initiating pre-alarms based on trends that indicate an imminent negative patient condition.

9. A sedation and analgesia system, comprising:

first means for monitoring health of a patient,

second means for monitoring health of said patient, wherein said second means is different from said first means and wherein each of said first and second monitoring means generate a signal reflecting one or more physiological conditions of the patient;

a user interface;

a drug delivery controller supplying one or more drugs to the patient;

a memory means for storing a safety data set reflecting safe and undesirable parameters of at least one of said monitored patient physiological conditions;

one or more effector for ensuring patient safety and clinician awareness; and

an electronic controller interconnected with the monitoring means, the user interface, the drug delivery controller, the memory means, and the effector, wherein said electronic controller receives said signals and in response to said signals controls the effector in accordance with the safety data set.

10. A method for providing orthogonal redundancy in sedation and analgesia system, comprising:

providing multiple monitors of a single patient parameter, wherein said monitors transmit patient data regarding said parameter;

monitoring the patient parameter with the monitors;

ascertaining whether any of the data transmitted from the patient monitors is outside a predetermined safety data set;

if none of the data is outside of the safety data set, providing normal sedation and analgesia system functionality;

if at least some of the data is outside of the safety data set, ascertaining whether the monitors are in agreement as to whether the data is outside of the safety data set; and

if the monitors are in agreement that data is outside the safety data set, initiating effectors associated with sedation and analgesia system.

11. The method of claim 10, further comprising the steps of:

if the monitors are not in agreement that data is outside of the safety data set, gathering additional information from patient monitors, and ascertaining whether the data from at least one monitor remains outside of the safety data set; and

if the monitors remain not in agreement that data is outside of the safety data set, initiating a separate predetermined protocol.

12. The method of claim 11, wherein said separate predetermined protocol comprises alerting a clinician.

13. The method of claim 12, wherein confirmation of said clinician is required to initiate an effector.

14. The method of claim 10, wherein said effectors include at least one of decreasing a drug target concentration, increasing a drug target concentration, delivering positive airway pressure, triggering said monitors to cull more information, alarming, changing drugs, delivering oxygen, and initiating pre-alarms based on trends that indicate an imminent negative patient condition.

15. A method for employing an orthogonally redundant system for use with a sedation and analgesia system, comprising:

providing multiple monitors, wherein such monitors are ascribed point values as to at least one of their importance and accuracy in monitoring a patient parameter;

monitoring the patient parameter with the monitors;

ascertaining whether any of the data transmitted from the patient monitors is outside a predetermined safety data set; and

if none of the data is outside of the safety data set, providing normal sedation and analgesia system functionality.

16. The method of claim 15, further comprising the steps of:

if at least some of the data is outside the safety data set, ascertaining whether the ascribed point values of monitors indicating a potentially dangerous patient condition add up to a number greater than a pre-determined threshold; and

if the sum of the ascribed point values exceed a predetermined value, initiating effectors associated with the sedation and analgesia system.

17. The method of claim 16, wherein said effectors include at least one of decreasing a drug target concentration, increasing a drug target concentration, delivering positive airway pressure, triggering said monitors to cull more information, alarming, changing drugs, delivering oxygen, and initiating pre-alarms based on trends that indicate an imminent negative patient condition.